

cont'd  
a37  
B10

wherein, when said recording sheet is brought to said nip with said unfixed toner image facing said endless belt means, said pressure roller means applies pressure to said recording sheet against said endless belt means so that said unfixed toner image is fixed on said recording sheet with heat by said heating means as said recording sheet is transferred by movement of said endless belt means and said pressure roller means.

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66. (Amended) An image forming apparatus as defined in Claim 63, wherein each of said at least two parallel heating elements has a width in a range between 0.01 mm and 5 mm.

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69. (Amended) An image forming apparatus as defined in Claim 67, wherein said heater controlling means selectively energizes said plurality of heating elements.

#### REMARKS

Favorable consideration of this application is presently amended in light of the following discussion is respectfully requested.

Claims 1-75 are pending in the present application and Claims 6, 9, 16, 21, 24, 26, 31, 36, 39-42, 47, 48, 51, 54, 61, 66, 69 have been amended by the present amendment.

The specification and claims have been amended to correct minor idiomatic informalities. It is believed no new matter has been added.

Accordingly, an action on the merit is earnestly solicited.

Respectfully submitted,

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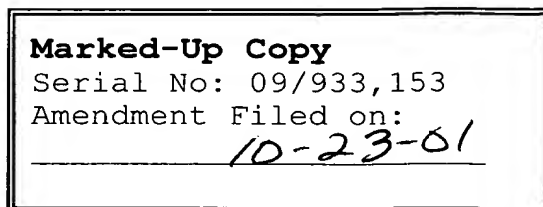
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IN THE SPECIFICATION

Page 14, beginning at line 25, please delete the paragraph and replace it with the following paragraph:

--In the above-described fixing unit 11, a toner image T on the recording sheet P is heated by the heater 12 via the endless belt 13 when the recording sheet P is fed into the gap between the endless belts 13 and 14. After that, the recording sheet P is subjected to a cooling process by which the toner image T is firmly fixed to the recording sheet P and is then separated from the endless belt 14. At least one of the guide rollers 16 and 18, arranged downstream from the heater 12 in the sheet transfer direction, is made of metal having a relatively high thermal conductivity and serves as a driving roller and a cooling roller. After a completion of the heat fixing process, the toner image T, the recording sheet P, and the endless belt 13 are cooled by the guide rollers 16 and 18. The recording sheet P [is made] makes close contact with the endless belts 13 and 14 while it is held by these endless belts 13 and 14. This is, the toner image T deposited on the recording sheet P is sealed by the endless belt 13 during the time the recording sheet P is processed by the fixing unit 11. The toner image T is therefore not removed from the recording sheet P when heated. And, the recording sheet P is separated from the endless belt 13 after the toner image T is sufficiently cooled and fixed on the recording sheet P so that the toner image T is not left deposited on the endless belt 13. Thus, the fixing unit 11 outputs an image in a stable quality without causing the offset.

Page 19, beginning at line 8, please delete the paragraph and replace it with the following paragraph:

Fig. 6 attempts to express a way how the energy of the electric power for the fixing process is saved when the recording sheet P having toner images T1 - T5, for example, is processed by the fixing unit 11. As shown in Fig. 6, the toner images T1 - T5 [have] are different in size from each other, for example. During the time the recording sheet P passes through the fixing unit 11, the signal  $A_{int}$  is raised to a high so as to drive the heater 12 each time one of the toner images T1 - T5 is brought close to the heater 12. The signal  $A_{int}$  is [fallen] dropped to a low so as to turn off the heater 12 when each of the toner images T1 - T5 is brought away from the heater 12 as the recording sheet P is being transferred in the fixing unit 11. During the time a white area having no toner image in the recording sheet P is [brought to be] passing by the heater 12, the signal  $A_{int}$  is not raised to a high and therefore the heater 12 is not driven.

Page 20, beginning at line 10, please delete the paragraph and replace it with the following paragraph:

Fig. 7 shows a modification of the fixing power control performed by the fixing power control unit 23. As indicated in Fig. 7, the signal  $A_{int}$  has three levels; a zero level, a white level, and a black level. The signal  $A_{int}$  is held at the zero level so as not to drive the heater 12 during the time the recording sheet P is not present in the fixing unit 11. The signal  $A_{int}$  is raised to the white level so as to pre-heat the heater 12 when the recording area of the recording sheet P is brought close to the heater 12. The signal  $A_{int}$  is raised from the white level to the black level so as to heat the heater 12 when the toner image T1 is brought close to the heater 12 and is [fallen] dropped back to the white level so as to pre-heat the heater 12 when the toner image T1 is brought away from the heater 12. The signal  $A_{int}$  is again raised to the black level so as to heat

the heater 12 when the next toner image T2 is brought close to the heater 12 and is [fallen] dropped back to the white level so as to pre-heat the heater 12 when that toner image T2 is brought away from the heater 12. This cycle is repeated for each toner image. The signal  $A_{int}$  is [fallen] dropped down to the zero level so as to turn off the heater 12 when the recording area of the recording sheet P brought away from the heater 12.

Page 23, beginning at line 12, please delete the paragraph and replace it with the following paragraph:

In the above-described fixing unit 211, the toner image T on the recording sheet P is heated by the heating members 212a and 212b of the heater 212 via the endless belt 13 when the recording sheet P is fed into the gap between the endless belts 13 and 14. After that, the recording sheet P is subjected to a cooling process by which the toner image T is firmly fixed to the recording sheet P and is then separated from the endless belt 14. At least one of the guide rollers 16 and 18, arranged downstream from the heater 212 in the sheet transfer direction, is made of metal having a relatively high thermal conductivity and serves as a driving roller and a cooling roller, as is the case with the fixing unit 11 of Fig. 2. After a completion of the heat fixing process, the toner image T, the recording sheet P, and the endless belt 13 are cooled by the guide rollers 16 and 18. The recording sheet P [is made] makes close contact with the endless belts 13 and 14 while it is held by these endless belts 13 and 14. That is, the toner image T deposited on the recording sheet P is sealed by the endless belt 13 during the time the recording sheet P is processed by the fixing unit 211. The toner image T is therefore not removed from the recording sheet P when heated. And, the recording sheet P is separated from the endless belt 13 after the toner image T is sufficiently cooled and fixed on the recording sheet P so that the toner image T is not left deposited on the endless belt 13. Thus, the fixing unit 211 outputs an image in a stable quality without causing the offset.

Page 26, beginning at line 7, please delete the paragraph and replace it with the following paragraph:

When the image forming process is performed in [a] high speed, it affects the fixing process by the fixing unit such that an increasing amount of heat is absorbed by the endless belt and therefore the temperature of the heater needs to be increased. However, the image forming apparatus 200 employs the heating members 212a and 212b in the heater 212 to maintain a total amount of heat unchanged without increasing the temperature of the heater. Thus, the heating members of the heater are protected from the damage caused by a high temperature. In the description below, two heater driving signals for driving the heating members 212a and 212b of the heater 212 are expressed as pulse integral wave signals  $A_{\text{int-a}}$  and  $A_{\text{int-b}}$ , respectively.

Page 26, beginning at line 20, please delete the paragraph and replace it with the following paragraph:

Fig. 13A expresses a way how the energy of the electric power for the fixing process is saved when the recording sheet P having toner images T1 - T4, for example, is processed by the fixing unit 211. In this case, the toner images T1 - T4 have the same width and length, as shown in Fig. 13A. During the time the recording sheet P is processed through the fixing unit 211, the signals  $A_{\text{int-a}}$  and  $A_{\text{int-b}}$  are switched between the white and black levels so as to drive the heating members 212a and 212b of the heater 212 each time one of the toner images T1 - T4 is brought close to the respective heating members of the heater 212. Thereby, the toner image T1 is heated and accordingly fixed on the recording sheet P. The signals  $A_{\text{int-a}}$  and  $A_{\text{int-b}}$  are not raised and therefore the heating members 212a and 212b of the heater 212 are not driven during the time a white area having no toner image in the recording sheet P is brought to be passing by the heater 212.

Page 27, beginning at line 12, please delete the paragraph and replace it with the following paragraph:

More specifically, a way of driving the heating members 212a and 212b is explained with reference to Fig. 13B that shows an enlarged part of Fig. 13A. That is, Fig. 13A shows an area circled with a dotted line indicated by a letter D and this area is shown in Fig. 13B in a manner enlarged in the sheet transfer direction. When the toner image T1 is brought close to the heating member 212a, driving the heating member 212a [has been] is started with at least one precedent pulse of the signal  $A_{int-a}$ . Likewise, when the toner image T1 is brought close to the heating member 212b, driving the heating member 212b [has been] is started with at least one precedent pulse of the signal  $A_{int-b}$ .

Page 27, beginning at line 19, please delete the paragraph and replace it with the following paragraph:

As also shown in Fig. 13B, the pulses included in the signals  $A_{int-a}$  and  $A_{int-b}$  are alternately raised to a high but not at the same time. This leads to a great amount of reduction of the power consumption. That is, in comparison with a case where the signals  $A_{int-a}$  and  $A_{int-b}$  are raised to a high at the same time, the power consumption per a unit time period is saved to [an] extent approximately half of it. It is noted that the experiment was conducted in which the amount of the power consumption was 1200 watts when the signals  $A_{int-a}$  and  $A_{int-b}$  are raised to a high at the same time but it was reduced to 600 watts when the signals  $A_{int-a}$  and  $A_{int-b}$  are alternately raised to a high.

Page 28, beginning at line 22, please delete the paragraph and replace it with the following paragraph:

Fig. 14A shows a modification of the fixing power control performed by the fixing power control unit 223. As in the case of the fixing power control unit 23 of Fig. 3, each of the signals

$A_{int-a}$  and  $A_{int-b}$  has three levels; a zero level, a white level, and a black level. The signals  $A_{int-a}$  and  $A_{int-b}$  are held at the zero level so as to deactivate the heating members 212a and 212b of the heater 212 when the recording sheet P is not present in the fixing unit 211. The signals  $A_{int-a}$  and  $A_{int-b}$  are raised to the white level so as to pre-heat the heating members 212a and 212b of the heater 212 when the image area of the recording sheet P is brought close to the heating members 212a and 212b of the heater 212 after the recording sheet P is fed into the fixing unit 211. The signals  $A_{int-a}$  and  $A_{int-b}$  are further raised to the black level so as to heat up the heating members 212a and 212b, respectively, when the toner image T1 is brought close to the heating members 212a and 212b. Then, the signals  $A_{int-a}$  and  $A_{int-b}$  are [fallen] dropped back to the white level so as to pre-heat the heating members 212a and 212b, respectively, when the toner image T1 is brought away from the heating members 212a and 212b. The signals  $A_{int-a}$  and  $A_{int-b}$  are again raised to the black level so as to heat the heating members 212a and 212b, respectively, when the next toner image T2 is brought close to the heating members 212a and 212b. Then the signals  $A_{int-a}$  and  $A_{int-b}$  are [fallen] dropped back to the white level so as to pre-heat the heating members 212a and 212b, respectively when that toner image T2 is brought away from the heating members 212a and 212b. This cycle is repeated until the toner image T4 is brought away from the heating members 212a and 212b of the heater 212. After the toner image T4, the signals  $A_{int-a}$  and  $A_{int-b}$  are [fallen] dropped down to the zero level so as to deactivate the heating members 212a and 212b, respectively, when the image area of the recording sheet P is brought away from the heating members 212a and 212b.

Page 30, beginning at line 11, please delete the paragraph and replace it with the following paragraph:

Fig. 14B explains more specifically a way of driving the heating members 212a and 212b. Fig. 14B shows an enlarged part of Fig. 14A. That is, an area circled with a dotted line



indicated by a letter D shown in Fig. 14A is shown in Fig. 14B in a manner enlarged in the sheet transfer direction. When the toner image T1 is brought close to the heating member 212a, driving the heating member 212a [has been] is started with at least one precedent pulse of the signal  $A_{int-a}$  which is raised from the white level to the black level. Likewise, when the toner image T1 is brought close to the heating member 212b, driving the heating member 212b [has been] is started with at least one precedent pulse of the signal  $A_{int-a}$  which is raised from the white level to the black level.

Page 30, beginning at line 24, please delete the paragraph and replace it with the following paragraph:

As also shown in Fig. 14B, the pulses included in the signals  $A_{int-a}$  and  $A_{int-b}$  are alternately raised to a high but not at the same time. This leads to a great amount of reduction of the power consumption. That is, in comparison with a case where the signals  $A_{int-a}$  and  $A_{int-b}$  are raised to a high at the same time, the power consumption per a unit time period is saved to [an] extend approximately half of it. It is noted that the experiment was conducted in which the white level had a 5% power reduction from the full power of the black level. In this experiment, the amount of the power consumption was recorded as 1200 watts when the signals  $A_{int-a}$  and  $A_{int-b}$  are raised to a high at the same time. However, the amount of the power consumption was reduced to 570 watts when the signals  $A_{int-a}$  and  $A_{int-b}$  are alternately raised. This is because the 5% power reduction contributed for a further reduction of 30 watts.

Page 32, beginning at line 5, please delete the paragraph and replace it with the following paragraph:

Fig. 15 shows another modification of the fixing power control performed by the fixing power control unit 223. This modification is similar to that of Fig. 14A, except for the control of the zero level before the toner image T1 and after the toner image T4. More specifically, in

this modification of Fig. 15, during the time the recording area of the recording sheet P is between the leading edge of the recording sheet and the first toner image T1 is brought close to the heating members, the signals  $A_{\text{int-a}}$  and  $A_{\text{int-b}}$  are held at the zero level so as to deactivate the heating members 212a and 212b. Also, the signals  $A_{\text{int-a}}$  and  $A_{\text{int-b}}$  are held at the zero level so as to deactivate the heating members 212a and 212b during the time the recording area of the recording sheet P is between the last toner image T3 and the trailing edge of the recording sheet is brought close to the heating members.

Page 32, beginning at line 22, please delete the paragraph and replace it with the following paragraph:

Next, another image forming apparatus 300 according to the embodiment of the present invention is explained with reference to Figs. 16-18. As shown in Fig. 16, the image forming apparatus 300 is similar to that of Fig. 1, except for fixing unit 311 and a power controller 320. The fixing unit 311 is, as shown in Fig. 17, similar to the fixing unit 11 of Fig. 2, except for a heater 312 that includes heating member 312a -312d for heating the toner image T. The power controller 320 is shown in Fig. 18 and is similar to the power controller 320 is shown in Fig. 18 and is similar to the power controller 20 of Fig. 3, except for a fixing power control circuit 323. The fixing power control circuit 323 has separate connections to the heating members 312a - 312d, as shown in Fig. 18, and generates the heater driving signals for driving the heating members 312a - 312d, respectively, in accordance with the corresponding image information sent from the control unit 22. Thereby, the heating members 312a - 312d of the heater 312 are heated up and [performs] perform the fixing process in accordance with the corresponding toner images deposited on the recording sheet P. The above-mentioned heater driving signals are composed of a plurality of pulses and are hereinafter expressed as the pulse integrate wave signals  $A_{\text{int-a}}$  and  $A_{\text{int-d}}$ , as is the case explained with reference to Figs. 5A - 5C.

Page 34, beginning at line 8, please delete the paragraph and replace it with the following paragraph:

In the above-described fixing unit 311, the toner image T on the recording sheet P is heated by the heating members 312a - 312d of the heater 312 via the endless belt 13 when the recording sheet P is fed into the gap between the endless belts 13 and 14. After that, the recording sheet P is subjected to a cooling process by which the toner image T is firmly fixed to the recording sheet P and is then separated from the endless belt 14. At least one of the guide rollers 16 and 18, arranged downstream from the heater 312 in the sheet transfer direction, is made of metal having a relatively high thermal conductivity and serves as a driving roller and a cooling roller, as is the case with the fixing unit 11 of Fig. 2. After a completion of the heat fixing process, the toner image T, the recording sheet P, and the endless belt 13 are cooled by the guide rollers 16 and 18. The recording sheet P [is made] makes close contact with the endless belts 13 and 14 while it is held by these endless belts 13 and 14. That is, the toner image T deposited on the recording sheet P is sealed by the endless belt 13 during the time the recording sheet P is processed by the fixing unit 311. The toner image T is therefore not removed from the recording sheet P when heated. And, the recording sheet P is separated from the endless belt 13 after the toner image T is sufficiently cooled and fixed on the recording sheet P so that the toner image T is not left deposited on the endless belt 13. Thus, the fixing unit 311 outputs an image in a stable quality without causing the offset.

Page 36, beginning at line 2, please delete the paragraph and replace it with the following paragraph:

Fig. 20 expresses a way how the energy of the electric power for the fixing process is saved when the recording sheet P having toner images T1 - T5, for example, is processed by the fixing unit 311. In this case, the toner images T1 - T5 are different in size from each other, as

shown in Fig. 20. During the time the recording sheet P is present and processed in the fixing unit 311, the signals  $A_{int-a}$  and  $A_{int-d}$  are held at a low so as to keep the heating members 312a - 312d unheated when no toner image is brought close to the heating members 312a - 312d. When toner image T1 is brought close to the heater 312, the signal  $A_{int-d}$  is raised to a high to drive the corresponding heating member 312d. Thereby, the toner image T1 is heated and fixed on the recording sheet. The signal  $A_{int-d}$  is then [fallen] dropped to a low so as to deactivate the heating member 312d when the toner image T1 is brought away from the heating member 312d as the recording sheet P is being transferred in the fixing unit 311. During this operation, the signals  $A_{int-a}$  and  $A_{int-c}$  are not activated. Therefore, the fixing process for the toner image T1 is executed with a one-fourth the power consumption of a case in which a heating member having a width covering the whole sheet width is activated.

Page 36, beginning at line 24, please delete the paragraph and replace it with the following paragraph:

When toner image T2 is brought close to the heater 312, the signals  $A_{int-c}$  and  $A_{int-d}$  are raised to a high to drive the corresponding heating members 312c and 312d. Thereby, the toner image T2 is heated and fixed on the recording sheet P. The signals  $A_{int-c}$  and  $A_{int-d}$  are then [fallen] dropped to a low so as to deactivate the heating members 312c and 312d when the toner image T2 is brought away from the heating members 312c and 312d as the recording sheet P is being transferred in the fixing unit 311. The remaining signals  $A_{int-a}$  and  $A_{int-b}$  are not activated during the above-described operation. Therefore, the fixing process for the toner image T2 is executed with one-half the power consumption of a case in which a heating member having a width covering the whole sheet width is activated.

Page 37, beginning at line 13, please delete the paragraph and replace it with the following paragraph:

When toner image T3 is brought close to the heater 312, the signals  $A_{int-b}$  and  $A_{int-c}$  are raised to a high to drive the corresponding heating members 312b and 312c. Thereby, the toner image T3 is heated and fixed on the recording sheet P. The signals  $A_{int-b}$  and  $A_{int-c}$  are then [fallen] dropped to a low so as to deactivate the heating members 312b and 312c when the toner image T3 is brought away from the heating members 312b and 312c as the recording sheet P is being transferred in the fixing unit 311. The remaining signals  $A_{int-a}$  and  $A_{int-d}$  are not activated during the above operation. Therefore, the fixing process for the toner image T3 is executed with one-half the power consumption of a case in which a heating member having a width covering the whole sheet width is activated.

Page 38, beginning at line 1, please delete the paragraph and replace it with the following paragraph:

When toner image T4 is brought close to the heater 312, the signals  $A_{int-b}$  and  $A_{int-c}$ , and  $A_{int-d}$  are raised to a high to drive the corresponding heating members 312b, 312c, and 312d and thereby the toner image T4 is heated and fixed on the recording sheet P. The signals  $A_{int-b}$ ,  $A_{int-c}$ , and  $A_{int-d}$  are then [fallen] dropped to a low so as to deactivate the heating members 312b, 312c, and 312d when the toner image T3 is brought away from the heating members 312b, 312c, and 312d as the recording sheet P is being transferred through the fixing unit 311. During this operation, the remaining signal  $A_{int-a}$  is not activated. Therefore, the fixing process for the toner image T4 is executed with three-fourth the power consumption of a case in which a heating member having a width covering the whole sheet width is activated.

Page 38, beginning at line 15, please delete the paragraph and replace it with the following paragraph:

When toner image T5 is brought close to the heater 312, the signals  $A_{int-a}$ ,  $A_{int-b}$ ,  $A_{int-c}$  and  $A_{int-d}$  are raised to a high to drive the corresponding heating members 312a, 312b, 312c, and

312d. Thereby the toner image T5 is heated and fixed on the recording sheet P. The signals  $A_{\text{int-a}}$ ,  $A_{\text{int-b}}$ ,  $A_{\text{int-c}}$  and  $A_{\text{int-d}}$  are then [fallen] dropped to a low so as to deactivate the heating members 312a, 312b, 312c, and 312d when the toner image T4 is brought away from the heating members 312a, 312b, 312c, and 312d as the recording sheet P is being transferred in the fixing unit 311. During this operation, all the signals  $A_{\text{int-a}}$  -  $A_{\text{int-d}}$  are activated. Therefore, the fixing process for the toner image T5 is executed with full the power consumption of a case in which a heating member having a width covering the whole sheet width is activated.

Page 40, beginning at line 16, please delete the paragraph and replace it with the following paragraph:

When toner image T1 is brought close to the heater 312, the signal  $A_{\text{int-d}}$  is raised from the white level to the black level to drive the corresponding heating member 312d. The toner image T1 is thereby heated and fixed on the recording sheet P. The signal  $A_{\text{int-d}}$  is then [fallen] dropped to the white level so as to pre-heat the heating member 312d when the toner image T1 is brought away from the heating member 312d as the recording sheet P is being transferred through the fixing unit 311. The remaining signals  $A_{\text{int-a}}$  -  $A_{\text{int-c}}$  are held at the white level during the above operation. Therefore, comparison with the power consumption of a case in which a heating member having a width covering the whole sheet width is activated, the fixing process for the toner image T1 is executed with the following reduced power consumption P1;

$$P1 = (1/4) \times 1 + (3/4) \times 0.95.$$

Page 41, beginning at line 6, please delete the paragraph and replace it with the following paragraph:

When toner image T2 is brought close to the heater 312, the signal  $A_{\text{int-c}}$  -  $A_{\text{int-d}}$  are raised to the black level to drive the corresponding heating member 312c and 312d. The toner image T2 is thereby heated and fixed on the recording sheet P. The signals  $A_{\text{int-c}}$  and  $A_{\text{int-d}}$  are then

[fallen] dropped to the white level so as to pre-heat the heating members 312c and 312d when the toner image T2 is brought away from the heating members 312c and 312d as the recording sheet P is being transferred in the fixing unit 311. During this operation, the remaining signals  $A_{\text{int-a}}$  and  $A_{\text{int-b}}$  are not activated. Therefore, the fixing process for the toner image T2 is executed with the following reduced power consumption P2;

$$P2 = (1/2) \times 1 + (1/2) \times 0.95.$$

Page 41, beginning at line 19, please delete the paragraph and replace it with the following paragraph:

When toner image T3 is brought close to the heater 312, the signals  $A_{\text{int-b}}$  and  $A_{\text{int-c}}$  are raised to the black level to drive the corresponding heating members 312b and 312c. The toner image T3 is thereby heated and fixed on the recording sheet P. The signals  $A_{\text{int-b}}$  and  $A_{\text{int-c}}$  are then [fallen] dropped to the white level so as to pre-heat the heating members 312b and 312c when the toner image T3 is brought away from the heating members 312b and 312c as the recording sheet P is being transferred in the fixing unit 311. During this operation, the remaining signals  $A_{\text{int-a}}$  and  $A_{\text{int-d}}$  are not activated. Therefore, the fixing process for the toner image T3 is executed with the following reduced power consumption P3;

$$P3 = (1/2) \times 1 + (1/2) \times 0.95.$$

Page 42, beginning at line 7, please delete the paragraph and replace it with the following paragraph:

When toner image T4 is brought close to the heater 312, the signals  $A_{\text{int-b}}$ ,  $A_{\text{int-c}}$ , and  $A_{\text{int-d}}$  are raised to the black level to drive the corresponding heating members 312b, 312c, and 312d. Thereby, the toner image T4 is heated and fixed on the recording sheet P. The signals  $A_{\text{int-b}}$ ,  $A_{\text{int-c}}$  and  $A_{\text{int-d}}$  are then [fallen] dropped to the white level so as to pre-heat the heating member 312b, 312c, and 312d when the toner image T4 is brought away from the heating members 312b, 312c,

and 312d as the recording sheet P is being transferred in the fixing unit 311. The remaining signal  $A_{\text{int-a}}$  is not activated during the above-described operation. Therefore, the fixing process for the toner image T4 is executed with the following reduced power consumption P4;

$$P4 = (3/4) \times 1 + (1/4) \times 0.95.$$

Page 42, beginning at line 21, please delete the paragraph and replace it with the following paragraph:

When toner image T5 is brought close to the heater 312, the signals  $A_{\text{int-a}}$ ,  $A_{\text{int-b}}$ ,  $A_{\text{int-c}}$  and  $A_{\text{int-d}}$  are raised to the black level to drive the corresponding heating members 312a, 312b, 312c, and 312d. Thereby, the toner image T5 is heated and fixed on the recording sheet P. The signals  $A_{\text{int-a}}$ ,  $A_{\text{int-b}}$ ,  $A_{\text{int-c}}$  and  $A_{\text{int-d}}$  are then [fallen] dropped to the white level so as to pre-heat the heating member 312a, 312b, 312c, and 312d when the toner image T4 is brought away from the heater 312 as the recording sheet P is being transferred through the fixing unit 311. During this operation, all the signal  $A_{\text{int-a}}$  -  $A_{\text{int-d}}$  are activated and, in this case, the fixing process for the toner image T5 is executed with the power consumption same as that of a case in which a heating member having a width covering the whole sheet width is activated.--

#### IN THE CLAIMS

Please amend Claims 6, 9, 16, 21, 24, 26, 31, 36, 39-42, 47, 48, 51, 54, 61, 66 and 69 as follows:

6. (Amended) A fixing apparatus as defined in Claim [2] 3, wherein each of said at least two parallel heating elements has a width in a range between 0.01 mm and 5 mm.

9. (Amended) A fixing apparatus as defined in Claim [6] 7, wherein said heater controller selectively energizes said plurality of heating elements.



16. (Amended) A fixing apparatus, comprising:

heating means for heating an unfixed toner image formed with toner on a recording sheet in accordance with image information, said heating means having a line shape orthogonal to a direction in which said recording sheet is transferred;

endless belt means for being rotated with an inner surface thereof sliding over a surface of said heating means;

pressure roller means [for] being held for rotation in contact with said endless belt means under pressure to form a nip therebetween, said pressure roller means being arranged at a position opposite to said heating means relative to said endless belt means; and

heater controlling means for energizing said heating means in accordance with said image information,

wherein, when said recording sheet is brought to said nip with said unfixed toner image facing said endless belt means, said pressure roller means applies pressure to said recording sheet against said endless belt means so that said unfixed toner image is fixed on said recording sheet with heat by said heating means as said recording sheet is transferred by movement of said endless belt means and said pressure roller means.

21. (Amended) A fixing apparatus as defined in Claim [17] 18, wherein each of said at least two parallel heating elements has a width in a range between 0.01 mm and 5 mm.

24. (Amended) A fixing apparatus as defined in Claim [21] 22, wherein said heater controlling means selectively energizes said plurality of heating elements.

26. (Amended) A fixing apparatus as defined in [f] Claim 16, further comprising guide roller means for supporting said endless belt means and serving as cooling means for cooling said toner image after said toner image is fixed with heat by said heating means on said

recording sheet, said guide roller being arranged at a position downstream from said heating means in said direction in which said recording sheet is transferred.

31. (Amended) A fixing method of image forming, comprising the steps of:

forming a nip between an endless belt and a pressure roller which are held for rotation in contact with each other under pressure;

[proving] providing a heater at position inside said endless belt, in contact with said endless belt, and opposite to said pressure roller relative to said endless belt, said heater having a line shape orthogonal to a direction in which a recording sheet having an unfixed toner image formed with toner in accordance with image information is transferred;

rotating said endless belt and said pressure roller, said endless belt sliding over a surface of said heater by rotation;

transferring said recording sheet to said nip, said recording sheet being in an orientation in which said toner image faces said endless belt; and

energizing said heater in accordance with said image information when said toner image is brought to said heater.

36. (Amended) A fixing apparatus as defined in Claim [32] 33, wherein each of said at least two parallel heating elements has a width in a range between 0.01 mm and 5 mm.

39. (Amended) A fixing method as defined in Claim [36] 37, wherein said energizing step selectively energizes said plurality of heating elements.

40. (Amended) A fixing method as defined in Claim 31, further comprising [a cooling] the step [for] of cooling said toner image after said toner image is fixed with heat by said heating step on said recording sheet.

41. (Amended) A fixing method as defined in Claim 31, further comprising [a providing] the step [for] of providing a guide roller for supporting said endless belt and for

serving as a cooling member for cooling said toner image after said toner image is fixed with heat by said heating step on said recording sheet, said guide roller being arranged at a position downstream from said heater in said direction in which said recording sheet is transferred.

42. (Amended) A fixing method as defined in Claim 31, further comprising [a providing] the step of providing a member for causing said endless belt to tightly hold said toner image and said recording sheet together until said toner image is fixed on said recording sheet after said toner image is subjected to the heat of said heating step.

47. (Amended) An image forming apparatus as defined in Claim [45] 46, wherein said toner includes a resin as a main adhesive agent and has properties of a softening or melting point in a range between 50°C and 160°C and a viscosity in a range between 10 [c poise] and 10<sup>13</sup> [c poise] under a temperature above said softening or melting point.

48. (Amended) An image forming apparatus as defined in Claim [45] 46, wherein said heater includes at least two parallel heating elements, each of which has a line shape orthogonal to said direction in which said recording sheet is transferred.

51. (Amended) An image forming apparatus as defined in Claim [47] 48, wherein each of said at least two parallel heating elements has a width in a range between 0.01 mm and 5 mm.

54. (Amended) An image forming apparatus as defined in Claim [51] 52, wherein said heater controller selectively energizes said plurality of heating elements.

61. (Amended) An image forming apparatus, comprising:

image forming means for forming a toner image with toner on a recording sheet in accordance with image information;

heating means for heating an unfixed toner image formed with toner on a recording sheet in accordance with image information, said heating means having a line shape orthogonal to a direction in which said recording sheet is transferred;

endless belt means for being rotated with an inner surface thereof sliding over a surface of said heating means;

pressure roller means [for] being held for rotation in contact with said endless belt means under pressure to form a nip therebetween, said pressure roller means being arranged at a position opposite to said heating means relative to said endless belt means; and

heater controlling means for energizing said heating means in accordance with said image information,

wherein, when said recording sheet is brought to said nip with said unfixed toner image facing said endless belt means, said pressure roller means applies pressure to said recording sheet against said endless belt means so that said unfixed toner image is fixed on said recording sheet with heat by said heating means as said recording sheet is transferred by movement of said endless belt means and said pressure roller means.

66. (Amended) An image forming apparatus as defined in Claim [62] 63, wherein each of said at least two parallel heating elements has a width in a range between 0.01 mm and 5 mm.

69. (Amended) An image forming apparatus as defined in Claim [66] 67, wherein said heater controlling means selectively energizes said plurality of heating elements.